

71A-38
MIHP No. PG: ~~71-38~~
Bridge No. 16017
MD 450 over CSX Railroad
Bowie
Prince George's County, MD
1926
Public Access

Capsule Summary

The Maryland State Roads Commission constructed Bridge No. 16017 in 1926. The bridge carries MD 450 over two sets of CSX railroad tracks in Bowie, Prince George's County. The three-span bridge is a hybrid form of two bridge types commonly built in the 1920s. The 45-foot central span is a concrete-encased, metal-plate, through girder bridge; the two 31-foot, 6-inch end spans utilize reinforced-concrete T-beam construction. The bridge features a 24-foot roadway bordered by cast reinforced-concrete parapets. The east and west concrete abutments differ in construction. The east abutment is a spill-through type, while the west abutment is a solid stub type. Two piers comprised of three reinforced-concrete columns support the bridge. The abutments and piers are cast-in-place.

Bridge No. 16017 was determined eligible for the National Register of Historic Places in 1998. The bridge holds significance in the areas of state and local transportation in 1926, the year of its construction. MD 450, the original road from Annapolis to Bladensburg, underwent improvements in the 1920s. The construction of Bridge No. 16017 was part of a program of Maryland bridge replacement and reconstruction in the 1920s and 1930s. The bridge crosses the Popes Creek Branch of the former Baltimore and Potomac (B&P) Railroad, completed in 1872. The rail line is currently incorporated into the CSX railroad system.

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Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG:71-38

1. Name of Property

(indicate preferred name)

historic Bridge No. 16017
other MD 450 over CSX Railroad

2. Location

street and number MD 450 over CSX Railroad, west of intersection with MD 197 not for publication
city, town Bowie vicinity
county Prince George's County

3. Owner of Property

(give names and mailing addresses of all owners)

name Maryland State Highway Administration
street and number 707 North Calvert Street telephone (410) 545-8540
city, town Baltimore state MD zip code 21202

4. Location of Legal Description

courthouse, registry of deeds, etc. Prince George's County Courthouse liber folio
city, town Upper Marlboro tax map 46 tax parcel tax ID number

5. Primary Location of Additional Data

- ☐ Contributing Resource in National Register District
☐ Contributing Resource in Local Historic District
☒ Determined Eligible for the National Register/Maryland Register
☐ Determined Ineligible for the National Register/Maryland Register
☐ Recorded by HABS/HAER
☐ Historic Structure Report or Research Report at MHT
☐ Other: _____

6. Classification

Category	Ownership	Current Function	Resource Count
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> agriculture	Contributing
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> landscape	Noncontributing
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> commerce/trade	_____ buildings
<input type="checkbox"/> site		<input type="checkbox"/> defense	_____ sites
<input type="checkbox"/> object		<input type="checkbox"/> domestic	_____ structures
		<input type="checkbox"/> education	_____ objects
		<input type="checkbox"/> funerary	_____ Total
		<input type="checkbox"/> government	
		<input type="checkbox"/> health care	
		<input type="checkbox"/> industry	
		<input type="checkbox"/> recreation/culture	
		<input type="checkbox"/> religion	
		<input type="checkbox"/> social	_____ 1
		<input checked="" type="checkbox"/> transportation	_____ 1
		<input type="checkbox"/> work in progress	
		<input type="checkbox"/> unknown	
		<input type="checkbox"/> vacant/not in use	
		<input type="checkbox"/> other:	

Number of Contributing Resources previously listed in the Inventory
1

7. Description

Inventory No. PG:71-38

Condition

<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated
<input type="checkbox"/> good	<input type="checkbox"/> ruins
<input checked="" type="checkbox"/> fair	<input checked="" type="checkbox"/> altered

Prepare both a one paragraph summary and a comprehensive description of the resource and its various elements as it exists today.

Summary and Setting

Bridge No. 16017 is located along MD 450 (Annapolis Road) in Bowie, Prince George's County. The bridge and highway run east to west, crossing two sets of CSX railroad tracks, which run north to south. The Maryland State Roads Commission (SRC) constructed Bridge No. 16017 in 1926. The three-span bridge is a hybrid form of two bridge types commonly built in the 1920s. The central span is a concrete-encased, metal-plate, through girder bridge; the two end spans utilize reinforced-concrete T-beam construction. A recently constructed concrete bridge crosses the CSX tracks north of Bridge No. 16017 along a relocated portion of Annapolis Road. The new bridge opened to traffic on February 3, 2005. Bridge No. 16017 currently remains open to local traffic.

Commercial buildings are located east and west of Bridge No. 16017, along MD 450. Multiple utility lines parallel the bridge. MD 450 curves northward west of the bridge, limiting sight distance. Light forest growth occurs on both sides of the railroad bed. Collington Branch and MD 197 parallel the railroad tracks on the east. The Levitt Substation of the Baltimore Gas & Electric Company is located between Collington Branch and MD 197 on the south side of MD 450.

Superstructure and Substructure

Bridge No. 16017 was constructed in 1926 by the Maryland SRC; W. C. Hopkins served as Bridge Engineer. The bridge consists of three spans. The central 45-foot span is a concrete-encased, metal-plate, through girder section. The two end spans each measure 31 feet 6 inches and are constructed of cast-in-place, reinforced-concrete T-beams. A 24-foot roadway and two 6-inch reinforced-concrete curbs comprise the floor system (Moser 1995). The bridge features cast reinforced-concrete parapets. Metal, W-beam guard rails attach to the ends of each parapet.

The east and west cast-in-place concrete abutments differ in construction. The east abutment is a spill-through type with two openings. Stones and concrete fill the north opening, and horizontal timbers fill the south opening. The west abutment is a solid stub type with no openings. The earth embankments below both abutments are reinforced with horizontal-timber retaining walls. Concrete has been roughly poured on part of the east embankment; stones lie along the sides. Stones cover the west embankment; evidence of a possible former stone wingwall, which may be part of a former bridge, exists on the southwest slope (Moser 1995).

The bridge spans rest on two piers, each comprised of three cast-in-place reinforced concrete columns. The piers, which rise approximately 28 feet in height, are located between the timber retaining walls and the railroad tracks (Moser 1995). The pier caps are wider than the width of the bridge. Stone and concrete have been applied to the base of the west pier.

A metal plaque is mounted on the interior west end of the bridge's south parapet. The plaque reads as follows:

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG:74-38

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 7 Page 1

Collington Bridge
Built 1926
State Roads Commission

John N. Mackall – Chairman & Chief Engineer
R. Bennett Darnall
W. W. Brown
L. H. Steuart – Secretary
W. C. Hopkins – Bridge Engineer

The number "16017" is painted on the parapet above the plaque. This number also appears on the interior east end of the bridge's north parapet.

Alterations and Condition

A 1988 bridge inspection report noted horizontal cracking and surface spall on both abutments. In 1992, 30 per cent of the bridge deck was patched. The west abutment underwent repairs in 1993 that included filling undermined portions of the abutment and installing bituminous curbing on the northwest slope to re-direct rainwater. In 1995, a one-quarter-inch open vertical crack was reported on the west abutment face, random vertical cracking was noted on pier columns, and pier caps exhibited horizontal cracking and efflorescence. Also, rebar was exposed on the floor beams of the central span. The differences in abutment types suggest that one of the present abutments is a replacement (Moser 1995).

In addition to the above-mentioned conditions, the bridge currently has further deteriorated. Cracking has occurred on the concrete beams of the central span, on the underside of the east span's deck, and on the interior and on the underside of the west span's north parapet. Spall is evident on the corners of all pier columns, on the cap of the east pier, and on most faces of the parapets (especially where spans intersect). Rebar is exposed on the central column of the east pier and on the underside of the west span's north parapet. Pier columns and the east abutment exhibit mildew and graffiti.

In 1998, Bridge No. 16017 was determined eligible for the National Register of Historic Places under Criterion C as embodying the distinctive characteristics of a type, period, or method of construction (Maryland State Highway Administration 1998). Due to the rerouting of traffic across the new bridge, Bridge No. 16017 currently carries only local traffic and is slated for removal. The current documentation was prepared in partial fulfillment of the stipulations of a Memorandum of Agreement between the Federal Highway Administration, the Maryland State Highway Administration, and the Maryland Historical Trust to mitigate the demolition of Bridge No. 16017. The bridge plaque will be donated to the City of Bowie for display in the Bowie Railroad Museum.

8. Significance

71A-38
Inventory No. PG:71-38

Period	Areas of Significance	Check and justify below			
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> health/medicine	<input type="checkbox"/> performing arts	
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> archeology	<input type="checkbox"/> education	<input type="checkbox"/> industry	<input type="checkbox"/> philosophy	
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> architecture	<input type="checkbox"/> engineering	<input type="checkbox"/> invention	<input type="checkbox"/> politics/government	
<input checked="" type="checkbox"/> 1900-1999	<input type="checkbox"/> art	<input type="checkbox"/> entertainment/ recreation	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion	
<input type="checkbox"/> 2000-	<input type="checkbox"/> commerce	<input type="checkbox"/> ethnic heritage	<input type="checkbox"/> law	<input type="checkbox"/> science	
	<input type="checkbox"/> communications	<input type="checkbox"/> exploration/ settlement	<input type="checkbox"/> literature	<input type="checkbox"/> social history	
	<input type="checkbox"/> community planning		<input type="checkbox"/> maritime history	<input checked="" type="checkbox"/> transportation	
	<input type="checkbox"/> conservation		<input type="checkbox"/> military	<input type="checkbox"/> other:	

Specific dates	1926	Architect/Builder	Maryland State Roads Commission W. C. Hopkins, Bridge Engineer
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Construction dates	1926
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Evaluation for:

☒ National Register ☒ Maryland Register ☐ not evaluated

Prepare a one-paragraph summary statement of significance addressing applicable criteria, followed by a narrative discussion of the history of the resource and its context. (For compliance projects, complete evaluation on a DOE Form – see manual.)

Summary

Bridge No. 16017, determined eligible for the National Register of Historic Places in 1998, holds significance in the areas of state and local transportation in 1926, the year of its construction. The bridge carries MD 450 over CSX railroad tracks in Bowie, Prince George's County. MD 450 (Annapolis Road) served as the original mid-eighteenth century road from Annapolis to Bladensburg. The Good Roads Movement, which began in the 1890s, spurred improvements in Maryland's roads, including present-day MD 450. In 1909, the Maryland State Roads Commission (SRC) selected the route as part of its improvement project and completed the upgraded road in the 1920s. Federal aid partially funded the improvements. In 1926, the road was designated as U.S. 50 (Defense Highway). By 1955, the road was superseded by a new U.S. 50 (John Hanson Highway), located south of and parallel to the former route. Former U.S. 50 became MD 450.

In the early twentieth century, most Maryland bridges were too narrow and weak to accommodate the increasing automobile traffic. The State underwent a program of bridge replacement and reconstruction in the 1920s and 1930s. Bridge No. 16017, completed the same year that the road became U.S. 50, exhibits two types of popular bridge technology: concrete-encased, metal-plate girder construction and reinforced-concrete T-beam construction. The majority of Maryland's extant concrete bridges dating from 1921 to 1930 utilized beam and T-beam construction.

Bridge No. 16017 crosses the Popes Creek Branch of the Baltimore and Potomac (B&P) Railroad. The tracks, completed by 1872, facilitated tobacco transportation for local farmers and allowed residents to commute from the present-day Bowie region to Washington, D.C. via a spur line. The B&P Railroad tracks, acquired by the Pennsylvania Railroad in 1902, later served Conrail before their incorporation into the CSX railroad system.

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~71-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 1

Historic Context

MD 450

Bridge No. 16017 in Prince George's County is located along MD 450 (Annapolis Road). The current route of MD 450 has existed since the mid-eighteenth century, when it was described as "the road from Annapolis to Bladensburg" (Maryland SRC 1958:8). Annapolis became the Maryland capital in 1694; two years later, Prince George's County was formed from parts of Charles and Calvert counties. Prince George's County contained no more than 2,000 residents when it was founded as a tobacco culture (Greene 1946:11; Virta 1991:28, 38). Bladensburg was established in 1742 as a busy tobacco port on the Anacostia River, which was then called the Eastern Branch. The river filled with silt by the beginning of the nineteenth century, and Bladensburg's commerce declined (Greene 1946:11, 13; Virta 1991:28, 38, 40). The tobacco culture provided the basis for Prince George's County's economy and society until after the Civil War, when small farms began varying crops and local commerce became more prominent (Virta 2005:3).

By 1739, Prince George's County featured more than 50 roads (P.A.C. Spero and Louis Berger 1995:13). The first improved highways in the county were authorized by the Maryland General Assembly and were constructed by incorporated road-building companies in the early nineteenth century. The first turnpike in Prince George's County, incorporated in 1812, linked Baltimore and Washington, D.C. (Greene 1946:9; Pearl 2005:3).

The current MD 450 route has been depicted on maps as early as 1796, when the road appeared on J. Denison's *Map of the States of Maryland and Delaware* (Maryland SRC 1958). The road also appeared on Simon Martenet's 1861 *Map of Prince George's County, Maryland* and on G. M. Hopkins' 1878 *Atlas of Prince George's County, Maryland*.

By the late-nineteenth century, roads throughout the United States, including Maryland, needed serious improvement. Farmers and their families began a Good Roads Movement in the 1890s to spur road improvements for the purpose of better product transportation and social networks. Bicyclists soon joined the farmers in their efforts. In 1898, the Maryland Road League, established at the end of the nineteenth century to promote good roads and bridges, influenced the Maryland General Assembly to authorize the Maryland Geological Survey Commission, founded in 1896, to undertake a study of road construction. This legislation created the Highway Division of the Maryland Geological Survey. The road study, known as the *Report of the Highways of Maryland*, was published in December 1899. The investigation examined seventeenth- and eighteenth-century roads, as well as turnpikes built in the beginning of the nineteenth century (Maryland SRC 1958:39-42; Parsons 1997:2-8 to 2-9).

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~74-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 2

The Maryland Geological Survey undertook a campaign of public education advocating the construction of good roads built of layers of rolled stone, referred to as macadam. This campaign influenced the majority of Maryland roads. In 1900, 13,118 miles of the total 14,483 miles of Maryland roads were dirt, resulting in mud during wet weather and dust during dry. The remainder of Maryland roads were surfaced with stone, gravel, or oyster shells (Maryland SRC 1958:39-41, 43-45). In 1904, the Maryland General Assembly passed the Shoemaker Act to supply state aid and supervision for building macadam roads. This act authorized \$200,000 annually, with the stipulation that counties matched state funds and allowed the State to supervise road work (P.A.C. Spero and Louis Berger 1995:28).

Automobile traffic played a major role in road improvement in Prince George's County. As automobile traffic increased during the early twentieth century, the county's population grew due to the creation of new communities. The number of county residents rose from 30,000 in 1900 to 60,000 by 1930 (Virta 2005:3). During the Good Roads Movement, Prince George's County kept pace with the rest of Maryland in constructing hard-surfaced roads (Greene 1946:9).

The Highway Division of the Maryland Geological Survey was abolished in 1910, two years after the formation of the State Roads Commission (Maryland SRC 1958:49). The establishment of the State Roads Commission in 1908 coincided with a program to construct and maintain "a state-wide system of roads connecting all of the county seats" (Parsons 1997:2-11). Road-building responsibility began to be shifted from the counties to the state. Maryland's state road system was the first in the nation to place road construction and maintenance completely under State control (MacDonald and Fairbank 1926:116). In 1912, the State Roads Commission reorganized, consolidating the construction and maintenance departments. This reorganization created eight districts within the state, each with its own Resident Engineer (P.A.C. Spero and Louis Berger 1995:178).

In 1909, the Maryland SRC developed a state roads system by selecting 1,300 miles of existing roads for improvement (P.A.C. Spero and Louis Berger 1995:29). The adoption of this road system included present-day MD 450 in Prince George's County. Improvements to the state roads system began in 1910 (Maryland SRC 1930:19, Plate 1). By the end of 1920, a small portion of present-day MD 450 east of Bladensburg had been completed. At that time, 1,666 miles of surfaced roads were being maintained by the State (Maryland SRC 1930:19-20, Plate 2). By 1930, the present-day MD 450 was completed; the road was constructed of concrete, bituminous concrete, and asphalt. The highway was part of 3,200 roads maintained by the State at the time. Prince George's County registered motor vehicles totaled 14,204 in 1929. Tractor trailers introduced for freight transportation in the 1930s prompted proper, standardized bridge design and construction (Maryland SRC 1930:20, 47, Plate 3; Maryland SRC 1927; P.A.C. Spero and Louis Berger 1995:29).

In addition to State assistance, federal funds were directed towards the improvement of present-day MD 450. Anticipating the growth of an interstate highway system, the U.S. Congress passed the Federal Aid Act in 1916 authorizing \$75,000 for the purpose of assisting state highway departments. The states designated the roads to

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~74-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 3

receive federal funding. Although World War I interrupted federal-aid highway work, the Federal Highway Act of 1921 reinstated the funding. Maryland derived great benefit from federal highway funds, which were applied to the improvement of many highways, including present-day MD 450. The U.S. Bureau of Public Works and the American Association of State Highway Officials began assigning U.S. highway numbers to state roads in 1925, resulting in a national network of 100,000 miles of marked highways by 1926 (Maryland SRC 1930:13, Plate 6; MacDonald and Fairbank 1926:117, 119; P.A.C. Spero and Louis Berger 1995:28-29; Weingroff 2004a:6; Weingroff 2004b:6; Hoen 1934; Hoen 1937). Present-day MD 450 was designated as U.S. 50 in 1926, the same year that Bridge No. 16017 was constructed. The original U.S. 50, also called Defense Highway, was replaced in 1955 by a new U.S. 50, known as John Hanson Highway. The new route was located south of and parallel to the original route. At that time, former U.S. 50 became MD 450, also called Annapolis Road (P.A.C. Spero and Louis Berger 1995:30; Maryland-National Capital Park and Planning Commission 1992).

Maryland Bridges

The Baltimore and Ohio (B&O) Railroad advanced bridge-building technology in Maryland between 1830 and 1900. Stone viaducts were first constructed, followed by metal truss bridges. Railroad bridge building resulted in training for civil engineers and subsequent advancements in technology. The Bollman metal truss bridges erected for the B&O Railroad eventually led to the widespread adoption of Maryland metal truss bridges not only for railroads, but also for highway travel. Popular bridge designs for road crossings in the late nineteenth century included Pratt and Warren metal truss and metal plate girder bridges and wooden timber trestle bridges (P.A.C. Spero and Louis Berger 1995:22, 24).

The 1899 *Report on the Highways of Maryland* identified three types of Maryland highway bridges: wood, iron, and stone. Although the majority of bridges were constructed of wood, short iron bridges rapidly replaced timber bridges for spans under 30 feet. The 1899 report also officially endorsed concrete for building bridges. This endorsement was the first of its kind in Maryland (P.A.C. Spero and Louis Berger 1995:26).

Automobile and truck traffic spurred improvement for Maryland's roads and bridges in the early twentieth century (P.A.C. Spero and Louis Berger 1995:27). War-related traffic and deferred maintenance during World War I had damaged many roads and bridges. The State determined that most roads and bridges were too narrow and insubstantial to accommodate the increasing automobile traffic. Maryland underwent a program of bridge replacement and reconstruction in the 1920s and 1930s; a State Roads Commission Bridge Division was formed in 1920 to supervise this program. Replacing narrow and dangerous one-way wooden bridges was a priority (Parsons 1997:2-12). In 1927, a procedure for eliminating railroad grade crossings along highways was developed (Maryland SRC 1930:68).

While standardized bridge plans were first introduced by railroads during the nineteenth century, such standardization was not applied to highways until the twentieth century. In 1909, the Maryland SRC began

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~74-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 4

drafting standardized bridge plans. The first such plans were issued in 1912, the same year that the State Roads Commission consolidated its construction and maintenance departments. Standardized plans continued to be issued in 1919, 1920, 1924, 1930, and 1933 for concrete culverts and bridges with spans ranging from 6 feet to 42 feet. The U.S. Bureau of Public Roads, the American Association of State Highway Officials, and the American Society of Civil Engineers advocated standardization of bridge plans as a cost-saving measure for county and municipal engineering departments (P.A.C. Spero and Louis Berger 1995:32, 178).

Although standardized bridge plans were encouraged for straightforward crossings, numerous non-standardized bridges also were built (P.A.C. Spero and Louis Berger 1995:33). Bridge No. 16017 in Prince George's County, constructed in 1926, is an example of a bridge for which standardized plans could not be strictly utilized. Bridge No. 16017 is a hybrid that features two types of design. The bridge spans a total of 77 feet, a much longer length than that of bridges built according to standardized plans. The 45-foot central span utilizes concrete-encased, metal-plate girder construction, while the two 31-foot 6-inch end spans exhibit a reinforced-concrete T-beam form.

Twenty-four-foot roadways were adopted as the standardized road width in Maryland in 1919. Bridge No. 16017 was built in 1926 and thus utilized the 24-foot standard roadway width. This width specification remained in effect until 1930, when it was increased to 27 feet. The final increase occurred in 1933, when the standardized road width was increased to 30 feet (P.A.C. Spero and Louis Berger 1995:180-181).

Metal girder construction, the technology utilized in the central span of Bridge No. 16017, was purportedly introduced and first popularized in Maryland by the state's major nineteenth-century railroads (P.A.C. Spero and Louis Berger 1995:126). A metal girder bridge features a wood or concrete floor system that is supported by girders spanning the main supports of the bridge. The girders are generally plain or concrete-encased rolled metal sections. The floor system consists of floor beams, or transverse members; and stringers, smaller members parallel to the movement of traffic. Components of metal girder bridges were initially formed of iron. By 1895, steel began to replace iron components (P.A.C. Spero and Louis Berger 1995:115).

Three types of metal girder bridges were used: those with deck girders in which the girders are placed beneath the deck, those with through girders, and those with half-through girders, which rise above the roadway level. The 45-foot central span of Bridge No. 16017 is a through-plate girder bridge that utilizes girders composed of built-up riveted sections with a deep web between the top and bottom flanges of the girder. The fabrication of riveted-sectioned plate girders differs from girders built in a single rolled section. In 1908, rolled beams were recommended for spans under 30 feet; plate girders were endorsed for 30 to 100-foot spans. Plate girders were usually riveted in a shop and then transported by train to bridge sites. Some plate girder bridges utilized concrete-encased girders, a technology that became popular between 1900 and 1930; Bridge No. 16017 exhibits this technology. Between 1920 and 1965, the Maryland SRC often used concrete-encased metal plate girders

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG:71-38

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 5

in building bridges for both railroad grade-crossing eliminations and for the construction of ordinary highway bridges (P.A.C. Spero and Louis Berger 1995:115, 117, 125, 129).

Reinforced concrete T-beam construction, the type utilized in the end spans of Bridge No. 16017, is a variation of concrete beam bridge technology. Beam bridges date to the Romans, who built them for military purposes. The earliest concrete beam bridges in the United States were deck girder bridges with concrete slabs supported by a series of longitudinal concrete beams. The bridges spanned two ends of concrete abutments and wingwalls, and were flanked by concrete parapets (P.A.C. Spero and Louis Berger 1995:165, 184). T-beam bridges are similar in appearance to deck girder bridges, but feature "a series of reinforced concrete beams that are integrated into the concrete slab, forming a monolithic mass appearing in cross section like a series of upper-case "T"s connected at the top" (P.A.C. Spero and Louis Berger 1995:165). The primary difference between T-beam bridges and concrete beam bridges is that the former type features integrated slabs and longitudinal beams, while the latter type has separate slabs and longitudinal beams (P.A.C. Spero and Louis Berger 1995:C-62).

The term "T-beam" first appeared in the 1909 publication *Concrete Bridges and Culverts*, by Henry G. Tyrell. By 1920, standardized plans for reinforced concrete T-beam bridges were developed in the United States. By the 1930s, T-beam bridges were commonly constructed in Maryland and Virginia (P.A.C. Spero and Louis Berger 1995:166). Of the state's extant concrete bridges dating from 1921 to 1930, 73 per cent are beam and T-beam construction. The remaining 27 per cent are arch bridges, which were the first type of concrete bridge in Maryland. Arch bridges had declined in popularity by the 1920s (P.A.C. Spero and Louis Berger 1995:152, 181).

In 1920, the Maryland SRC shifted from regular beam design to T-beam design for standardized bridges to conserve materials. Plans incorporating T-beam technology were first issued in 1924, two years before the construction of Bridge No. 16017. Bridge specifications prohibited construction joints between the longitudinal beams and the slabs and required that the beams and slabs be poured as a monolithic mass (P.A.C. Spero and Louis Berger 1995:180).

The Maryland Geological Survey advocated reinforced-concrete bridge construction for the replacement of wooden bridges in the early twentieth century. Bar reinforcement for concrete bridges was utilized, rather than the former technique of beam reinforcement. The first concrete bridge constructed in Maryland utilizing reinforcing bars was the 1903 Baltimore County bridge at Sherwood Station (P.A.C. Spero and Louis Berger 1995:153, 175-176). Bridge No. 16017, constructed in 1926, provides an example of bar reinforcement. The 1930 standardized plans for T-beam bridges increased the thickness of reinforcing bars; these plans also introduced pierced concrete parapets into bridge technology (P.A.C. Spero and Louis Berger 1995:181).

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG:71-38

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 6

The Baltimore and Potomac Railroad

Bridge No. 16017 spans the tracks previously controlled by the Baltimore and Potomac (B&P) Railroad, a company that boosted the development of the Town of Bowie. In 1853, Colonel William D. Bowie received a charter from the Maryland General Assembly to build a railroad line connecting Baltimore to Popes Creek in southern Maryland. Various delays in construction ensued, and the Civil War further stalled the effort (Patrick 2005). However, Simon Martenet's *Map of Prince George's County, Maryland* depicted the proposed route for the railroad line in 1861.

The B&P Railroad Company allied with the Pennsylvania Railroad to construct the tracks beginning in 1869. Until that time, the U.S. Congress had not allowed the Pennsylvania Railroad to extend to Washington, D.C., due to the existence of a similar route on the Baltimore and Ohio (B&O) Railroad. The B&P Railroad, however, was chartered to complete spur lines of up to twenty miles. When they allied with the Pennsylvania Railroad, the B&P gained a much-sought route into southern Maryland, while the Pennsylvania Railroad met its goal of extending tracks to Washington, D.C. The section of the new railroad from Baltimore to southern Maryland, called the Popes Creek Branch, was completed by 1872. The spur line to Washington, D.C. began train service that same year; this line presently is operated by Amtrak's Northeast Corridor service (Patrick 2005).

Before the completion of the new railroad lines, the region was dominated by small farms and large tobacco plantations that served the agricultural economy. In 1870, a land speculator developed the area around the new railroad junction, naming the community Huntington City, which served as the first section of the later-established Town of Bowie. The railroad junction's station was named Bowie for Oden Bowie, the president of the B&P Railroad and a major force behind its establishment. The City of Bowie initially consisted of scattered farms and villages, including Collington (the area in which Bridge No. 16017 was built), Mitchellville, and Huntington (Patrick 2005).

The B&P Railroad facilitated the transportation of tobacco for local farmers and enabled residents to commute to Washington, D.C. (Lawrence 1878:8; Pearl 2005:4). G. M. Hopkins' 1878 *Atlas of Prince George's County, Maryland*, depicted the Popes Creek Branch with a station at Collington. The station stood south of the location of today's Bridge No. 16017, east of the tracks, and west of present-day MD 197. The residence of John Hardesty and a store incorporating the Collington Post Office were located nearby. Only one known original bridge crossing the Popes Creek Branch currently survives. This wood and iron bridge, known as Chews Bridge (MIHP No. 82A-35), spans the tracks at Van Wagner Road in the Upper Marlboro vicinity (Maryland-National Capital Park and Planning Commission 1992:90).

Huntington City was renamed the Town of Bowie by 1880 to match the name of the Bowie Railroad Station. The Pennsylvania Railroad acquired the B&P Railroad in 1902. A second railway, the Washington, Baltimore

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38

Inventory No. PG:71-38

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 8 Page 7

and Annapolis Railroad electric trolley line, was established in the region in 1908. Despite early twentieth-century suburban development along the tracks, the local communities retained their rural character (Virta 1991:192).

The 1906 USGS Patuxent Quadrangle, reprinted in 1921, depicted the tracks passing under Bridge No. 16017 as the Philadelphia, Baltimore and Washington Railroad. The Collington Station still existed at that time. The Philadelphia, Baltimore and Washington Railroad, which owned the tracks when Bridge No. 16017 was built, was purchased by the Pennsylvania Railroad by 1971 (P.A.C. Spero and Louis Berger 1995:Figure 4; CSX Transportation 2005).

Following the bankruptcy of the Pennsylvania Railroad in 1971, Conrail acquired the railroad tracks beneath Bridge No. 16017 by 1993. The Collington Station had been demolished by this time (CSX Transportation 2005; U.S. Geological Survey 1965). Conrail and CSX Corporation announced a merger in 1996. The new CSX railroad began operating in 1999 and presently remains the owner of the tracks passing under Bridge No. 16017 (CSX Transportation 2005).

Conclusion

As part of a statewide bridge inventory by the Historic Bridge Inventory Committee, Bridge No. 16017 was determined eligible for the National Register of Historic Places under Criterion C for the embodiment of distinctive characteristics of a type, period, or method of construction (Maryland State Highway Administration 1998). Under Project No. PG439B21, Bridge No. 16017 is slated for demolition. This MIHP form was prepared to fulfill stipulations of the Memorandum of Agreement between the Federal Highway Administration, the Maryland State Highway Administration, and the Maryland Historical Trust to mitigate the effects of the project upon the historic property.

Bridge No. 16017 is a hybrid form of two bridge types commonly built in the 1920s. Bridge No. 16017 utilizes concrete-encased, metal-plate, through girder construction and reinforced-concrete T-beam technology. The construction of Bridge No. 16017 in 1926 was part of a program of Maryland bridge replacement and reconstruction in the 1920s and 1930s.

9. Major Bibliographical References

Inventory No. PG: ^{7A-38}~~71-38~~

See continuation sheet.

10. Geographical Data

Acreage of surveyed property Less than 1 acre
Acreage of historical setting Less than 1 acre
Quadrangle name Lanham, MD

Quadrangle scale: 1:24000

Verbal boundary description and justification

The present MD Route 450 right-of-way, including the bridge and approaches.

11. Form Prepared by

name/title	Kathryn G. Dixon, Historic Preservation Specialist		
organization	R. Christopher Goodwin & Associates, Inc.	date	March 2005
street & number	241 East Fourth Street, Suite 100	telephone	301-694-0428
city or town	Frederick	state	MD

The Maryland Inventory of Historic Properties was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
DHCD/DHCP
100 Community Place
Crownsville, MD 21032-2023
410-514-7600

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~74-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 9 Page 1

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Maryland Historical Trust

Maryland Inventory of Historic Properties Form

71A-38
Inventory No. PG: ~~71-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number 9 Page 2

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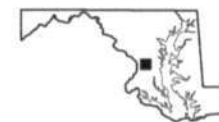
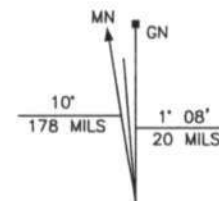
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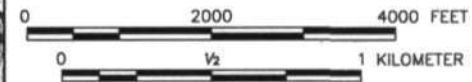
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MARYLAND
QUADRANGLE LOCATION

SCALE 1:24000



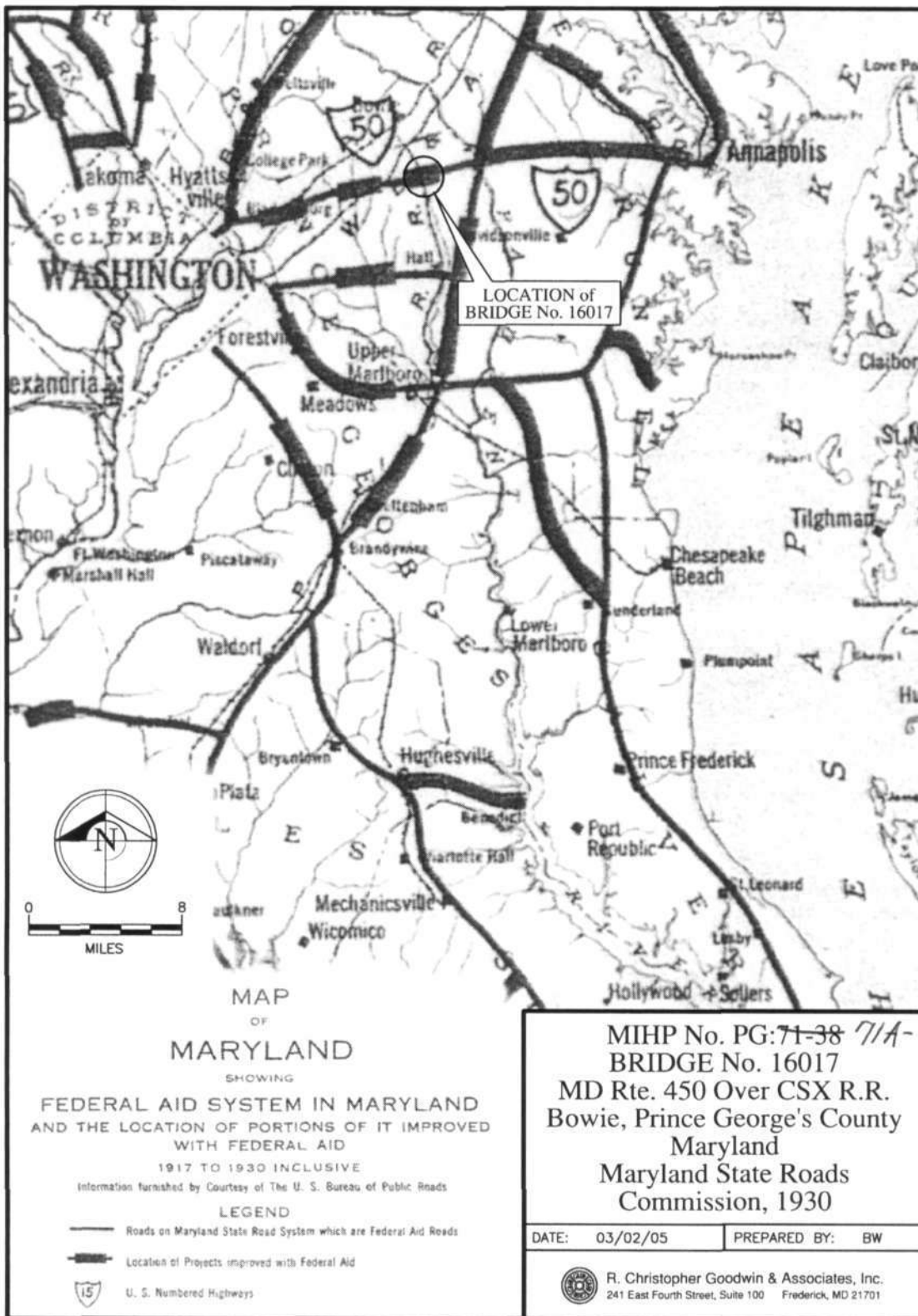
MIHP No. PG-71-38 7/A-38
BRIDGE No. 16017
MD Rte. 450 Over CSX R.R.
Bowie, Prince George's County
Maryland
USGS Quadrangle, Lanham, MD,
1965 (Photorevised 1993)

DATE: 03/02/05

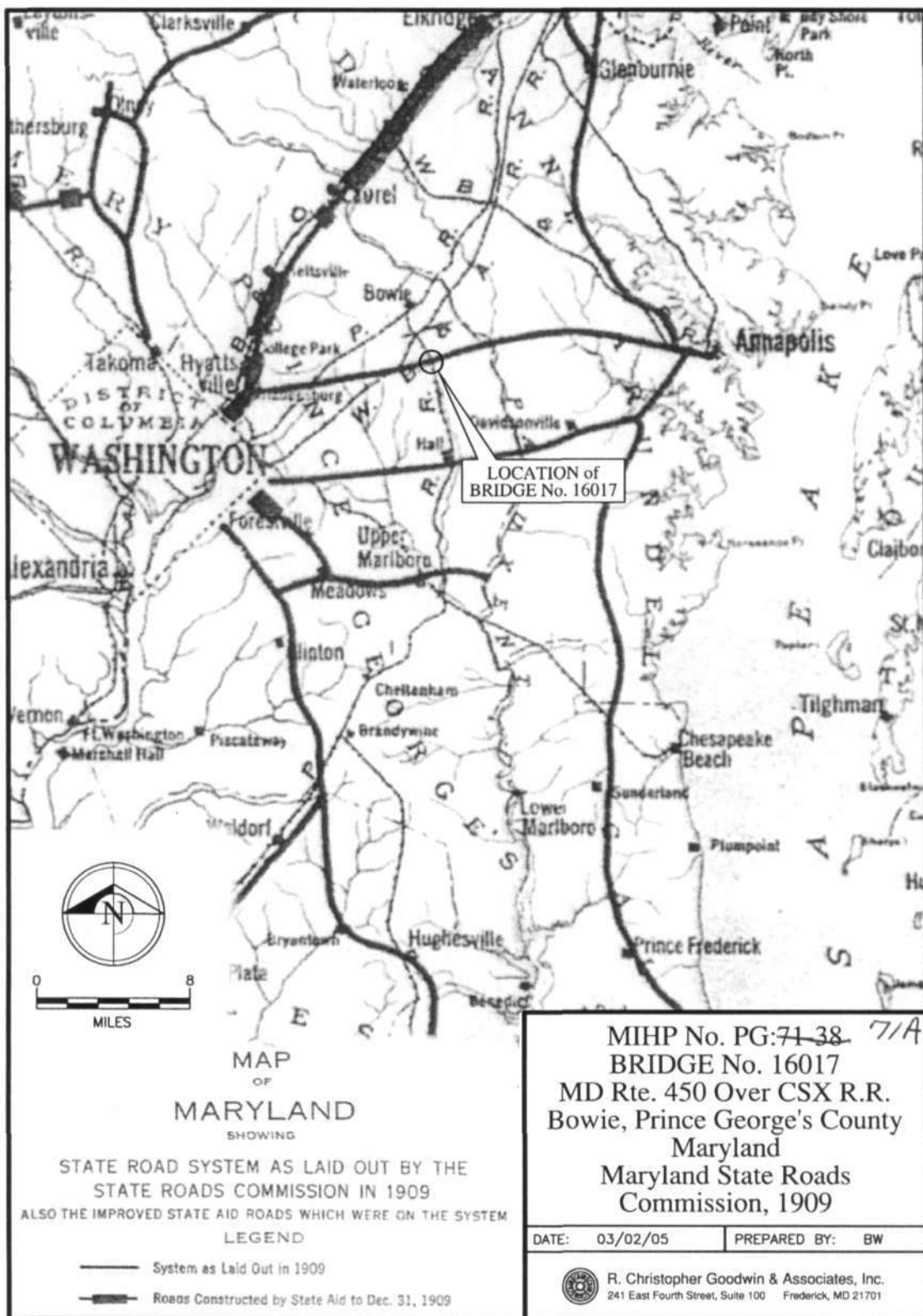
PREPARED BY: BW

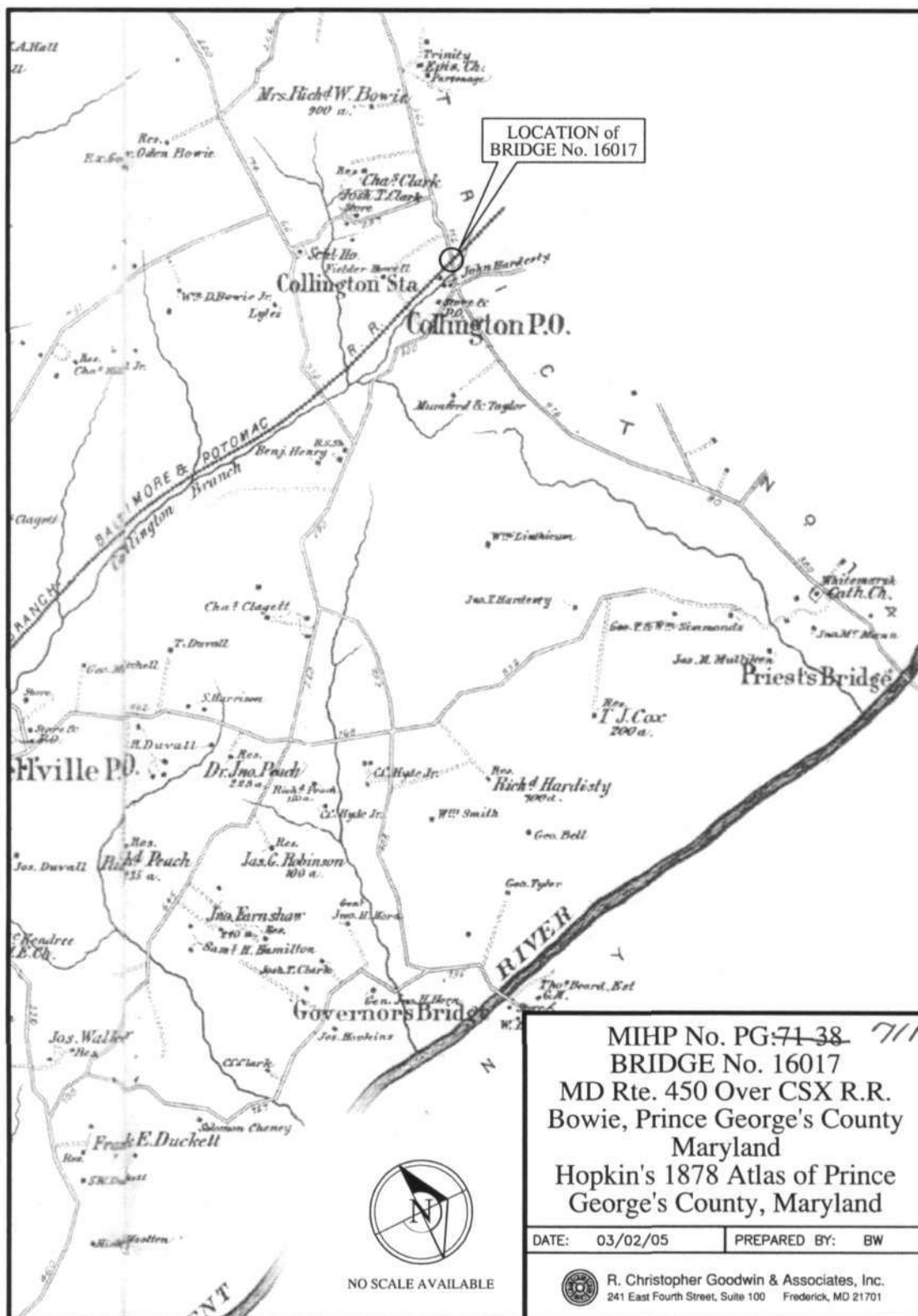


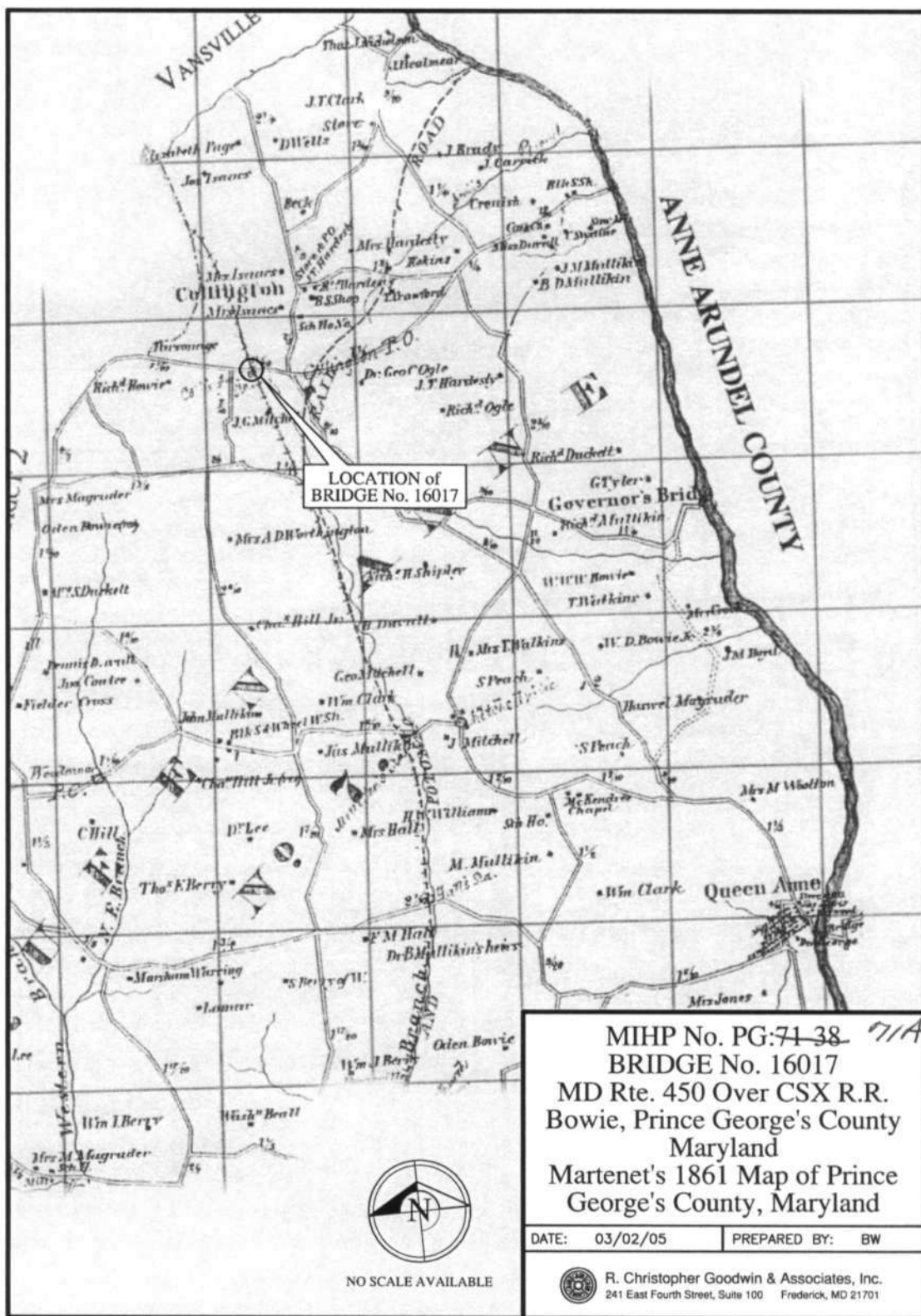
R. Christopher Goodwin & Associates, Inc.
241 East Fourth Street, Suite 100 Frederick, MD 21701











MIHP No. PG-71-38 71A-38
 BRIDGE No. 16017
 MD Rte. 450 Over CSX R.R.
 Bowie, Prince George's County
 Maryland
 Martenet's 1861 Map of Prince
 George's County, Maryland

DATE: 03/02/05 PREPARED BY: BW



R. Christopher Goodwin & Associates, Inc.
 241 East Fourth Street, Suite 100 Frederick, MD 21701

Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. PG: ^{71A-38}~~71-38~~

Bridge No. 16017, Prince George's County, MD
Continuation Sheet

Number Photo Log Page 1

The following information is the same for each photograph:

MIHP No. PG:~~71-38~~ ^{71A-38}
Bridge No. 16017
Prince George's County, MD
Harriet Wise
February 2005
MD-SHPO

Descriptions:

1. Context, view NW from railroad bed
2. South façade from railroad bed
3. North façade from railroad bed
4. East abutment, view E
5. West abutment, view NW
6. West approach from highway
7. Parapet detail, view W
8. East approach from highway
9. Parapet detail, view E
10. Bridge plaque, view S



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHPO

Context, view NW from railroad bed

1/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHPO

South façade from railroad bed

2/10



TR101 1000

PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD- SHPO

North facade from railroad bed

3/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD - SHPO

East abutment, view E

4/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHP0

West abutment, view NW

5/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD - SHPO

West approach from highway

6/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHPO

Parapet detail, view W

7/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD - SH Po

East approach from highway

8/10



SC 1000

KODAK SAFETY FILM

1000

PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHP0

Parapet detail, view E

9/10



PG: 71A-38

Bridge No. 16017

Prince George's County, MD

Harriet Wise

February 2005

MD-SHP0

Bridge plaque, view S

10/10

Maryland Historical Trust

Maryland Inventory of Historic Properties number:

PG: 71A-38

Name:

MD 450 over Conrail

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended <input checked="" type="checkbox"/> X	Eligibility Not Recommended _____
Criteria: <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D	Considerations: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> None
Comments: _____	
Reviewer, OPS: <u>Anne E. Bruder</u>	
Date: <u>3 April 2001</u>	
Reviewer, NR Program: <u>Peter E. Kurtze</u>	
Date: <u>3 April 2001</u>	

JMS



Maryland Inventory of Historic Properties
Historic Bridge Inventory
Maryland State Highway Administration
Maryland Historical Trust

PG: 71A-38
MHT Number PG:71-38

Name and SHA No. 16017 over Conrail

Location:

Street/Road Name and Number: Maryland Route 450 over Conrail

City/Town: Bowie Vicinity

County: Prince George's

Ownership: X State County Municipal Other

This bridge projects over: Road X Railway Water Land

Is the bridge located within a designated district: yes X no

 NR listed district NR determined eligible district

 locally designated other

Name of District

Bridge Type:

 Timber Bridge
 Beam Bridge Truss-Covered Trestle
 Timber-and-Concrete

 Stone Arch

 Metal Truss

 Movable Bridge
 Swing Bascule Single Leaf Bascule Multiple Leaf
 Vertical Lift Retractable Pontoon

X Metal Girder
 Rolled Girder Rolled Girder Concrete Encased
 Plate Girder X Plate Girder Concrete Encased

 Metal Suspension

 Metal Arch

☐ Metal Cantilever☒ Concrete☐ Concrete Arch ☐ Concrete Slab ☒ Concrete Beam☐ Rigid Frame☐ Other Type Name _____**Description:****Describe Setting:**

Bridge No. 16017 carries traffic east-west on Maryland Route 450 over Conrail Railroad. The bridge carries traffic over two sets of railroad tracks. The east track is in poor condition and has not been used recently. The west approach roadway is curved and sight distance is limited. Multiple overhead utility lines are visible paralleling the bridge. Commercial buildings are visible on the West side of the bridge. The areas on both sides of the bridge are covered in light forest growth, approximately 30-50 years old.

Describe Superstructure and Substructure:

Bridge No. 16017 is a three span bridge consisting of two 31'6" cast in place reinforced concrete T-beam spans, and one 45' concrete encased thru plate girder span. The floor system consists of a 24'0" roadway and two 6" curbs of reinforced concrete. This bridge was built by Maryland State Roads Commission in 1926. The parapets are solid cast reinforced concrete. The east abutment is a cast in place reinforced concrete spill-thru abutments on spread footings set 18'± below bridge seat. The west abutment is a cast in place reinforced concrete stub type on spread footings set 4'± below bridge seat. The Intermediate supports consist of two cast in place reinforced concrete 3 column piers on spread footings set 28'± below bridge seat.

A 1988 inspection report indicates that both backwalls had horizontal cracking and surface spall. The west abutment face had a 1/4" open vertical crack under beam three, pier columns had random vertical cracking and pier caps have horizontal cracking with efflorescence, and rebar was exposed in the floor beams of span two.

Discuss Major Alterations:

Details of repairs to the structure are scanty. In 1992, 30% of the deck was patched. In 1993 undermined areas of the west abutment were filled, and bituminous curbing was installed on the northwest slope to direct rainwater from the west abutment. The different abutment types indicates that one of the abutments was replaced and may represent an episode of major alteration.

In the future a new bridge will be built as part of the Maryland Route 450 relocation project at a new location over Conrail, however the old bridge (16017) is to remain in service.

History:**When Built:** 1926**Why Built:** Local transportation needs**Who Built:** Maryland State Roads Commission, W.C. Hopkins**Why Altered:** Not applicable**Was this bridge built as part of an organized bridge building campaign:** Yes**Surveyor Analysis:****This bridge may have NR significance for association with:**☐ A Events ☐ Person☒ C Engineering/Architectural**Was this bridge constructed in response to significant events in Maryland or local history:**

It is unknown whether this bridge was constructed in response to significant events in Maryland or local history.

In 1968 the railroad tracks now owned by Conrail were owned by Pennsylvania Central. There may be a stone cobble wingwall in existence under the west abutment. This may be a form of erosion control or it may be a portion of an older bridge in the same location.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

It is unknown whether the construction and/or alteration of this bridge has had significant impact on the growth and development of the area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district?

No, this bridge does not appear to be located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type?

This bridge may be a significant example of its type.

Does the bridge retain integrity of the important elements described in the Context Addendum?

Yes, this bridge appears to retain the integrity of most of its character defining elements. One of its abutments may have been replaced however, the concrete parapets the bridge deck, and a plaque indicating the year of construction indicates that most of this bridge appears to retain integrity.

Should this bridge be given further study before significance analysis is made and Why?

Further research of this bridge is unnecessary. This bridge is eligible for inclusion on the National Register of Historic Places.

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1965 7.5' Lanham Quadrangle, photorevised 1979.

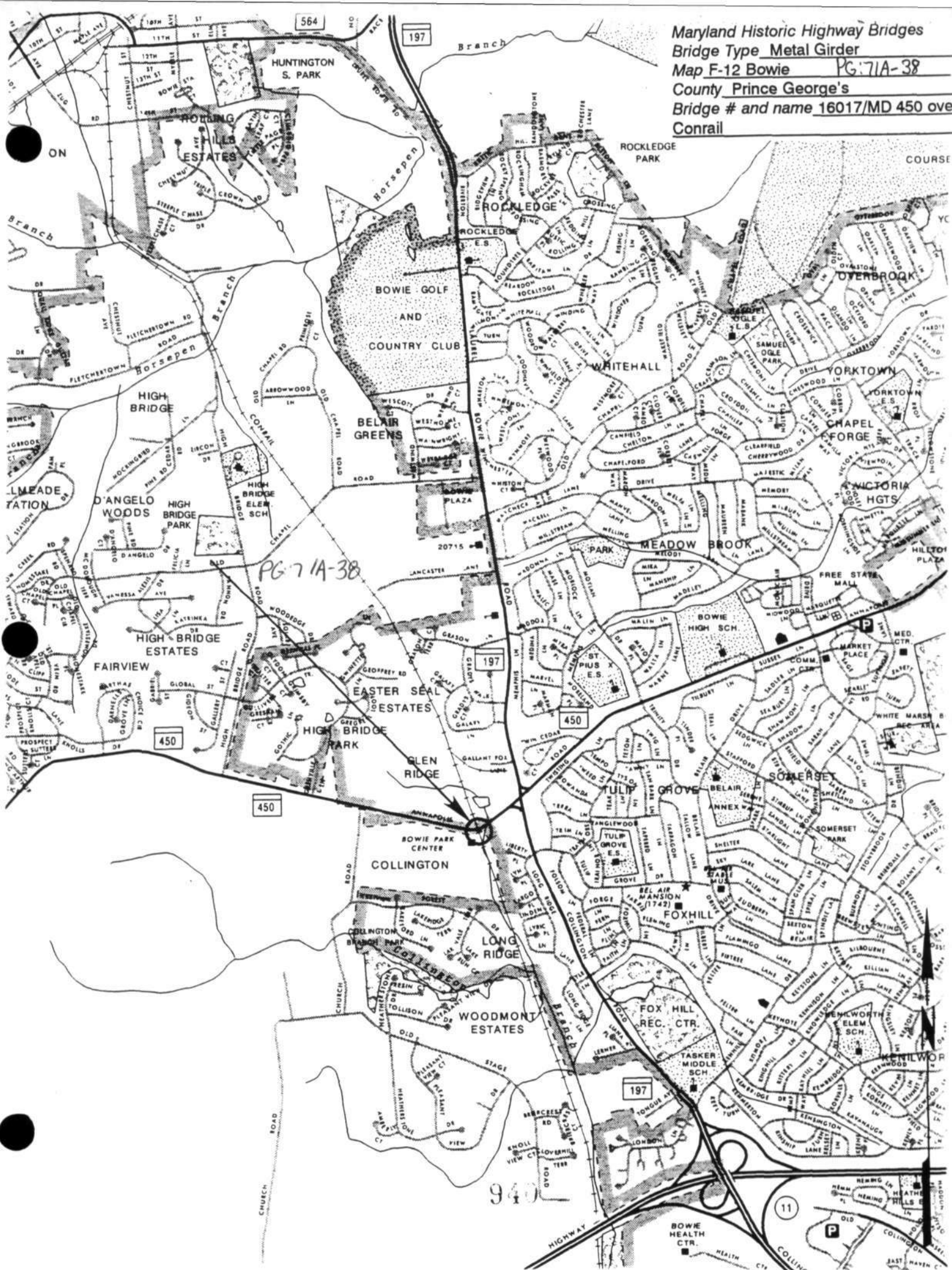
Surveyor:

Name: Jason D. Moser **Date:** September 1995

Organization: State Highway Admin. **Telephone:** (410) 321-2213

Address: 2323 West Joppa Road Brooklandville, MD 21022

Bridge # and name 16017/MD 450 over
Conrail





Inventory # PG: 7A38

Name 16017-MD 450 OVER CONRAIL

County/State PRINCE GEORGES COUNTY/MD

Name of Photographer WALLY KING

Date 1/95

Location of Negative SHA

Description EAST APPROACH LOOKING
WEST

Number 8 of 23
1 5



PG: 71A-38

Name 16017-MRD 450 OVER CONTRAIL

County/State PRINCE GEORGES COUNTY MD

Name of Photographer WALLY KING

Date 1/95

Location of Negative SIA

Description WEST APPROACH LOOKING EAST

Number 1 of 23

08-00000000000000000000000000000000

16017



Inventory # PG:74-38

Name 16017- MD 450 OVER CONRAIL

County/State PRINCE GEORGES COUNTY/MD

Name of Photographer WALLY KING

Date 1/95

Location of Negative SWA

Description PLAQUE - "COLLINGTON
BRIDGE"

Number 10 of 25
3

BAR KPM00M[090050 4611 IN 10-11-94 090060]M000KJEP



Inventory # PG:74-38

Name 16017-MD 450 OVER CONRAIL
County/State PRINCE GEORGES COUNTY
Name of Photographer WALLY KING
Date 1/95

Location of Negative SHA

Description SOUTH ELEVATION

Number 4 of 255

1194 05001100050 4611 1194



Inventory # PG171A-38

Name 16017- MD 450 OVER CONRAIL

County/State PRINCE GEORGES COUNTY/MD

Name of Photographer WALLY KING

Date 1/95

Location of Negative SHA

Description NORTH ELEVATION

Number 51 of 235

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